ELECTRO·SENSORS

Reliable Products
Trustworthy People

Features

• 2-wire, loop-powered 4-20 mA analog output

• No user calibration: works right out of the box

• Works with shaft-mounted pulser targets (disc/wrap)

• Rugged stainless steel M18x1 housing

• Reverse-wiring protected

• UL Listed, Intrinsically Safe (IS)

• Class I, Div I (C, D) Class II, Div I (E, F, G) when used with an IS barrier

c (UL) US LISTED

Description

The patented ST420 detects passing magnets of a shaft-mounted pulser disc or wrap and outputs a smooth, continuous 4-20 mA analog signal in direct proportion to shaft rotation speed.
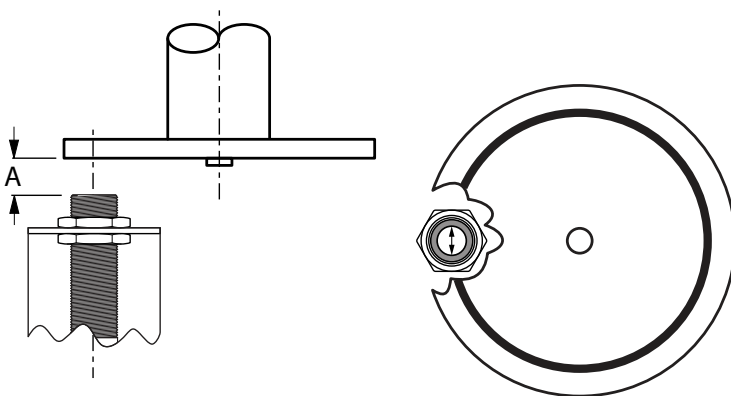
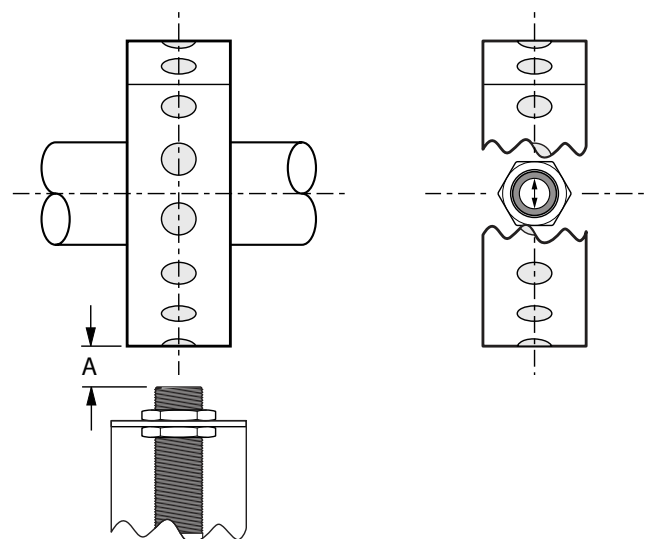Custom speed and pulser PPR models are available upon request.

Applications

• Conveyors
• Motors
• Gearboxes
• Agitators
• Pumps
• Generators

• Turbines
• Fans
• Centrifuges
• Mixers
• Bearings
• Chemical Processing

ST420 Installation

Mount the pulser target (disc or wrap) to the shaft. Mount the ST420 with the arrow label aligned with the center path of the pulser target magnets as shown. Adjust the gap (A) to 1/4" (6.35 mm).
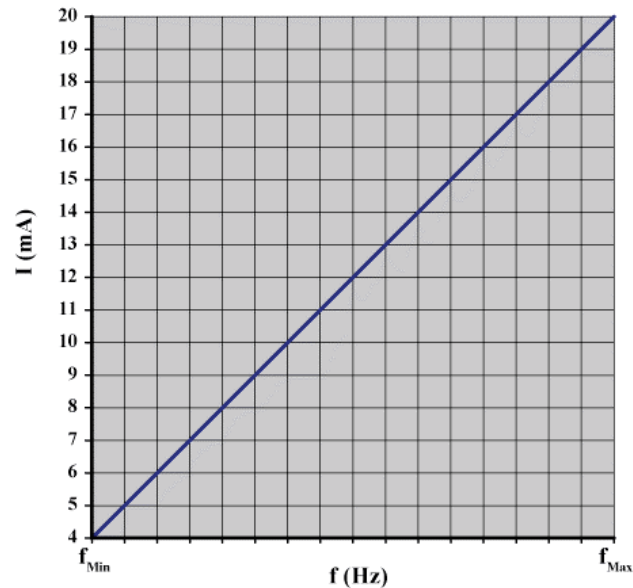

With Pulser Disc (shaft-end mount)

With Split Collar Pulser Wrap (around shaft)

5 YEAR WARRANTY

ST420 Specifications

Product	
Dimensions	80 mm (3.15") long x 18 mm (0.71") diameter
Sensor Gap	1/4" ± 1/8"
Vin (min → max)	8-30 VDC (nominal loop-power: 24 VDC
Operating Temperature	-20° C → +80° C (-4° F → +176° F)
Accuracy	Max error at 25° C ± 0.25% Max error over operating temperature ± 0.50%
Output Response Time	< 9 mS
Cable (24 AWG)	
Color Code	Brown (V+), Black (V-)

Ordering

(All models come with a standard bracket for mounting.
Standard cable length is 10')

Model	Part Number
ST420 low speed 0.2 - 200 RPM, 8 Pulses Per Revolution (PPR)	800-001620
ST420 high speed 0.2 - 2,000 RPM, 8 Pulses Per Revolution (PPR)	800-001621
Custom models may be built to order. Specify RPM_{min} → RPM_{max} and PPR (# pulser magnets)	Custom

ST420 Standard 2-Piece System

These are the most popular system components.
Many other options are available.

Option	Part Number
258 Pulser Disc, Nylon, 4" Diameter, 8 Magnets	700-000209
Split Collar Pulser Wrap (PVC, Aluminum, Stainless Steel)	Custom (See website)

ST420 EZ Mounting Options

Option	Part Number
EZ-18mm Mounting Bracket Assembly	810-000042
MM-1.25 Mounting Magnet (Must be used with EZ-18mm)	810-000060

EZ-18mm Mounting Bracket Option

MM-1.25 Mounting Magnet Option (must be used with EZ-18mm)

Customization

If one of standard products does not meet your specifications, please do not hesitate to call one of our applications specialists. Many of our products can be customized to fit specific needs.

Additional Information

See the ST420 Shaft Speed Sensor Installation and Operating Manual for complete details and specifications.